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Critical behavior from geometric confinement in shear thickening suspensions ERIC BROWN, University of Chicago, HEINRICH JAEGER, Univeristy of Chicago — We performed rheometry measurements on shear thickening suspensions. The viscosity is measured as a shear stress over shear rate in the shear thickening region to have divergent scalings of both the magnitude and slope at a critical packing fraction ϕ_c. The yield stress also has a divergent scaling at ϕ_c. This is qualitatively different form jamming models in which the yield stress grows gradually from an onset packing fraction. The value of ϕ_c depends only on particle shape and equals 0.56 for hard spheres, corresponding to random loose packing and the onset of dilation.

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